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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,755	08/09/2006	Yoshiaki Sonobe	Q9-473	6031
23373 7590 09/25/2008 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER HARRIS, GARY D				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
09/25/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/576,755

Applicant(s)

SONOBE ET AL.

Examiner

GARY D. HARRIS

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-6, 9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-6, 9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 8/26/2008
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/26/2008 has been entered.

Response to Arguments

Applicant's arguments filed 7/11/08 have been fully considered but they are not persuasive. Applicant has submitted a new IDS and with this submission examiner is utilizing the Kikitsu et al. US 6,830,824 for the rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-6, 9, 10 are rejected under 35 U.S.C. 103(a) as obvious over Kikitsu et al. US 6,830,824.

As to Claim 1 & 6, Kikitsu et al. US 6,830,824 discloses a recording medium and method of producing, having perpendicular anisotropy utilizing Cobalt and/or iron based alloys, the use of noble metals including Co/Pt and Co/Pd and Si with oxygen which would produce a granular material (Col. 8, 9 Line 49-67, 1-13 respectively) and discloses an atomic ratio of SiO_2 (2.65 g/cm^3) to Cobalt (8.9 g/cm^3) of 45 & 50 volume percent (Col. 48, Line 38-41) but does not disclose the atomic percent of Silica. Examiner interprets that the weight percent of SiO_2 would be 6 atomic percent or more as Kikitsu et al. '824 discloses a volume percentage of near 50 percent and Silica. Assuming 1 cm^3

$$0.50 \times 2.65 / (2.65 + 8.9) = 11 \% \text{ SiO}_2$$

$$0.45 \times 2.65 / (2.65 + 8.9) = 10\% \text{ SiO}_2$$

Kikitsu changes the SiO_2 via volume percentages which would result in a weight percentage change (depending on the specific density of the materials). Regardless, it would have been obvious to optimize the weight percent of SiO_2 as Kikitsu changes the volume percent which would indicate a change in atomic percentages as illustrated above, it would have been obvious as this would be a results effective variable MPEP 2144.05 that would be optimized by one of ordinary skill in the art through routine experimentation.

Additionally Kikitsu et al. '824 utilizes soft magnetic layers (Col. 9, Line 46-62). The process limitation of using argon in the sputtering chamber is also noted. However,

it would have been obvious as this would be a results effective variable MPEP 2144.05 that would be optimized by one of ordinary skill in the art through routine experimentation.

As to Claim 4, Kikitsu et al. US 6,830,824 discloses Si with oxygen which to produce a granular material (Col. 8, 9 Line 49-67, 1-13 respectively) and discloses an atomic ration of SiO₂ to Cobalt of 45 & 50 volume percent (Col. 48, Line 38-41) but does not disclose the atomic percent of Silica. Examiner interprets that the weight percent of SiO₂ would be 6 atomic percent or more. Regardless, it would have been obvious to optimize the weight percent of SiO₂ as Kikitsu changes the volume percent which would indicate a change in atomic percentages. Examiner has interpreted that Kikitsu clearly understands manipulating the SiO₂ ratios and atomic percentages and considers this a results effective variable.

As to Claim 5, Kikitsu et al. US 6,830,824 discloses CoCrPt, FePt, CoPt and alloys thereof (Col. 8-9, Line 49-67, 1-13 respectively).

As to Claim 9 & 10, Kikitsu et al. US 6,830,824 discloses the use of noble metal layers (applicant's spacer layers) including Co/Pt and Co/Pd in a multilayer configuration (Col. 8, 9 Line 49-67, 1-13 respectively).

References not relied upon are cited as art of interest.

Column and line numbers are provided for convenience. However, the entire reference should be considered.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GARY D. HARRIS whose telephone number is (571)272-6508. The examiner can normally be reached on 8AM - 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith D. Hendricks can be reached on 571-272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gary D. Harris/
Examiner, Art Unit 1794

/Holly Rickman/
Primary Examiner, Art Unit 1794